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# THE MONIST

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## THE PRIMITIVE INHABITANTS OF EUROPE.<sup>1</sup>

IT WOULD be strange if it were not of such common occurrence in science, that early conceptions not only continue by force of inertia to form the foundation of successive explanations but also acquire an almost invincible resistance to new conceptions and discoveries and seem to be ineradicable. Hence, those who in the progress of science, in the discovery of new facts and in the new interpretations of them, attempt to lay bare the foundation of an old system find that they have assumed a very difficult task. For if to some who follow the progress of knowledge new inductions are not difficult to assimilate, the majority of those who make pretensions to knowledge are not shaken by new ideas, for the simple reason that they are incapable of comprehending them, and they therefore oppose them with great obstinacy, as if their knowledge were absolute and incontrovertible. From this it happens that it is very difficult in spite of the clearest of demonstrations to destroy the errors with which scientific tradition was early inoculated and which have become in some instances the basis of a system.

All this is natural, however, because to turn the mind in a direction not acquired and habitual requires an effort. Hence from mere mental indolence men are not disposed to change their thought

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<sup>1</sup> Translated from the manuscript of Prof. Sergi by I. W. Howerth, Ph. D., of the University of Chicago.

and, content to follow in the old paths, are irritated by those who constrain them to follow others.

This fact is constantly being illustrated at all times and in every science. The Darwinian hypothesis alone seems to form an exception, for its acceptance was at its appearance almost universal, there being but few obstacles in the way of it. But this is easily explained, for the minds of those who were interested in the great problem had been prepared by the work of almost half a century, especially by that of Lamarck and Saint Hilaire who, as we all know, had been struggling for such ideas but without success.

These considerations will help one to comprehend the difficulty which is to-day encountered in the treatment of the problem of the primitive inhabitants of Europe with reference to their physical characters and their civilisation ; for the numerous recent discoveries and the new methods of research lead to conclusions almost diametrically opposed to the old ones now rooted and established as incontrovertible facts. In spite of the difficulty, however, we shall attempt to enter upon a new path.

#### I.

De Quatrefages, the most eminent anthropologist of France, risked a general synthesis in regard to the primitive inhabitants of Europe. Broadminded and with keen insight, he was the superior of Broca who occupied himself with particular data of anthropology, of which science he is in France the founder, and only a few times attempted a synthesis of certain scattered and in his time not well-ascertained facts. Perhaps this indicates his prudence, which is a superior quality of the well-balanced mind ; but it is useful, perhaps even necessary, that from the midst of facts which appear unrelated there should arise a synthesis, even though it be only provisional, which shall become the starting-point for further investigations and explanations, useful in the progress of knowledge.

The work of De Quatrefages was continuous and even progressive, but always in the same sense and in the same direction. Any one who reads his works on the human species, the skulls of the

human races, fossil and primitive man, will find in them but few changes and the same general direction of ideas and assertions.

When he wrote, corrections had not been made upon the noteworthy discoveries at Cro-Magnon, Grenelle, Furfooz and elsewhere, and he, like other anthropologists and ethnologists, believed them Quaternary. With such opinions, which were those of his time, he reconstructed the primitive Quaternary races and established six of them, that is, the Cannstatt, the Cro-Magnon, the mesocephalic and the sub-brachycephalic of Furfooz, the Grenelle and finally the race of Truchere. "All these races belonged to the Quaternary age which immediately precedes our own."<sup>1</sup>

The so-called Tertiary man, according to De Quatrefages, was the precursor of the first man, and of the race of Cannstatt itself. Not being an evolutionist he did not, with G. de Mortillet, admit as a precursor a being intermediate between man and the ape. He accepted the man of Castenedolo, the discoveries of Burgeois, and those of Capellini in Tuscany as evidences of Pliocene man.

Hence he admitted a continuation of the Cro-Magnon race into the Neolithic age, against the assertions of De Baye, Hamy, Broca and others, based chiefly upon the hand implements of the Cro-Magnon man, which are not different from those of the Neolithic age, and he had some reason for doing so, because in that time the Cro-Magnon race was believed to be Quaternary. It is therefore to the credit of his sagacity that he admits the persistence of the Quaternary populations, such as he believed them and named them, and did not accept the hiatus between the Paleolithic and the Neolithic age, admitted by all his contemporaries including Mortillet himself. Time has proven that he was right, for the discoveries of Piette concerning a Pre-Neolithic man confirm the opinion of the anthropologist of the Museum of Natural History. Among his most eminent co-laborers was Hamy now his successor in the chair at the Museum.<sup>2</sup>

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<sup>1</sup> *Hommes fossiles et hommes sauvages*. Paris, 1884, p. 59.

<sup>2</sup> De Quatrefages, *L'espèce humaine*. Paris, 1871. *Histoire générale des races humaines*. Paris, 1889. De Quatrefages and Hamy, *Crania ethnica*. Paris, 1882.

Many corrections must be made as to the discoveries called Quaternary, Cro-Magnon, Grenelle, Furfooz and others. Very few remains of that primitive time, only some fragments, bear testimony to the physical forms of man. In spite of recent doubts the Neanderthal skull remains and stands as a witness to the ancient Quaternary race, and there are also some skeletons with various fragments of the Magdalenian age, a Quaternary epoch relatively more recent; that is, it belongs to the interval between the ancient Paleolithic and Neolithic ages. The Cro-Magnon, Grenelle and Furfooz types are Neolithic and belong to different periods.

Many theories originating with De Quatrefages and others are seen to fall to pieces when it is admitted that the skulls of Grenelle Truchere, and of Trou-du-frontal do not belong to the Quaternary period. This is the case with the theory of a Quaternary brachycephalic race and the hypothesis of its origin, because only in the remains of the Neolithic burying grounds of recent times do the brachycephalic skulls appear.

Of the French anthropologists who after De Quatrefages attempted a synthesis in regard to the primitive inhabitants of Europe, De Mortillet, Hervé, and Salmon are the most noteworthy, and are those among whom is the least disagreement in regard to dates and explanations.

Salmon divides the age of stone into three great periods: the Paleolithic Quaternary, the Mesolithic, by which he characterises the Magdalenian epoch, and the Neolithic. In regard to human types characterised by cranial types, he accepts the division of Hervé for the Quaternary. That is, he divides the first period of the Paleolithic or Quaternary age into lower, middle, and upper, distinguished in the epochs already known as Chelle, Moustier, and Magdalenian. He affirms that we know nothing of the man of the lower Quaternary period, but that we know something of that of the middle and upper by means of the skulls of Spy, Laugerie-Basse, and Chancelade.

The Magdalenian form of Laugerie-Chancelade survived the Mesolithic transition and transmitted itself to the more ancient Neolithic form of Baumes-Chaude. This type was followed by the

brachycephalic race of Gallia which immigrated before the Neolithic dolichocephalic, and is principally that of Grenelle. Finally appeared the Neolithic dolichocephalic, which was a new immigration, and brought new elements into the civilisation of the polished stone age.<sup>1</sup>

Hervé found that the Magdalenian race continued into the Neolithic age and is represented in Baumes-Chaude-Cro-Magnon as a differentiation of the type of Chancelade, which has nothing in common with that of Neanderthal. As to the brachycephalic type Hervé believes that it represents an immigration chiefly at the beginning of the present epoch, of which the brachycephalic race of Grenelle, now diffused over a large part of occidental Europe, represents the advance guard. During the Neolithic age this element was mingled with an ancient race having elongated skulls.<sup>2</sup>

According to De Mortillet the matter is quite different. A thoroughgoing evolutionist, he believes that the race of Neanderthal and Spy is continued in the forms of Laugerie and Chancelade which are a transformation of the well-known Quaternary type. There followed a brachycephalic race, that already admitted by Hervé and Salmon, and the appearance of the ancient dolichocephalic race. So, according to the eminent French anthropologist, there has been a formation of Neolithic races upon the basis of the transformation of the early Quaternary type of Neanderthal and Spy. This opinion of De Mortillet is not accepted either in France or elsewhere, although he maintains it at great length.<sup>3</sup>

Apparently the problem of the ancient races is simplified by the French anthropologists, because it seems that they are reduced

<sup>1</sup> Salmon, *Sur l'utilité de la nouvelle division paléthnologique de l'âge de la pierre*. Bull. Soc. Dauphinoise d'ethnologie, etc. Grenoble, 1894.

*Ibid.*, *Dénombrement et types des races néolithiques de la Gaule*. Revue mensuelle d'Anthropologie. Paris, 1895.

<sup>2</sup> Hervé, *La race des troglodytes magdaléniens*. Revue de l'Ecole d'Anthropologie, 1893.

*Ibid.*, *Distribution en France de la race néolithique de Baumes-Chaude*. Revue, cit. 1894.

<sup>3</sup> Précis d'anthropologie, p. 372. Paris, 1887.

*Ibid.*, *Les brachycéphales néolithiques*. Revue, cit. 1894-1895.

to four, namely, the primitive dolichocephalic race, rightly called Quaternary and illustrated by that of Neanderthal and Spy; the Mesolithic, also Quaternary but more recent (that of Chancelade and Laugerie); third, the brachycephalic of the Grenelle type, and fourth, the Neolithic dolichocephalic race appearing recently and represented by the cranium of Genay (Côte d'Or). But this is an illusion, and we shall see that there are many complications and many divisions which, however, are in part reduced by Hervé after a particular analysis of the craniums of the brachycephalic type. In *Crania Ethnica* there are mentioned four types of four races with this brachycephalic character. Hervé reduces the Neolithic morphological types of Furfooz and Grenelle to three, of which the two types of Furfooz represent sub-types and varieties due to crossing with the indigenous element. The Grenelle is the first race to which the name Neolithic brachycephalic should be applied.<sup>1</sup> The two types of Furfooz, one sub-brachycephalic and the other mesaticephalic, derived according to Hervé from the pure brachycephalic of Grenelle, are widely distributed, extending even to the Mediterranean. Where the brachycephalic and the sub-brachycephalic exist there are found also the mesaticephalic, but the former are not so numerous as the latter, since the mesaticephalic extends over an area which surpasses very much the limits of the other three forms.

How could a large number of the mesaticephalic be found where there are no brachycephalic from which they could have originated? Hervé explains the phenomenon thus: the brachycephalic which are found in two principal regions, the Belgic and Allobrogic as he calls them, could only have reached in that area of the mesaticephalic a small number, and would have been absorbed by the population with long skulls, leaving a number of halfbreeds as the mesaticephalic. The eminent anthropologist must permit me to say that this is a strange theory, due to an error in principle, that is, that the mesocephalic are a product of crossing. If the pure types were absorbed, I do not see how they could have resisted the halfbreeds, for it is known that the types which

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<sup>1</sup> Hervé, *Les brachycéphales néolithiques*, cit.

are affected by crossing are eliminated on the reappearance of the pure type. According to my view the mesocephalic are as original as the dolichocephalic and brachycephalic.

According to De Quatrefages the brachycephalic race of Grenelle, which he believes to be Quaternary, are the Lapps. Even Hervé and other French anthropologists assume a Lapp immigration. The difference between De Quatrefages and others is only in the epoch, which is now believed to be Neolithic, but toward the end, if not really at the end of it, and at the beginning of the age of metals.

But it is important to know the origin of the Magdalenian races, according to Hervé, Salmon, and others. We remember that they are summed up in the name Chancelade-Cro-Magnon-Baumes-Chaude. De Quatrefages and Hamy agree with Verneau in assuming that the Cro-Magnon, then believed Quaternary, emigrated from the north and occupied the basin of the Mediterranean with Northern Africa, not including Egypt and the Canary Islands. This is the so-called hyperboreal theory which Hamy, writing on human paleontology, maintained, but later abandoned. Now Hervé and others mention it complacently but complain that Hamy has abandoned it as any part of a true anthropology. Hervé reappears as an advocate of the old hyperboreal theory, basing it upon the observations of Testut upon the man of Chancelade principally, and upon certain other indices of an ethnological character.

At Chancelade in Dordogne was discovered a Quaternary deposit of the epoch called Magdalenian and in it a human skeleton. From a study of this skeleton made by Testut<sup>1</sup> it appears that the skull has a capacity of 1730 cubic centimetres, a length of 193 millimetres, a breadth of 139, and a height of 150, with the indices of 72.021 and of 77.7 respectively. The face has a bizygomatic breadth of 140 millimetres, a height of 77 with an index of 55. The nose has an index of 42.6. Hence the cranium is dolicocephalic, ipsi-cephalic, leptoprosopic, leptorhine. The author declares that the skull has the characters of a superior race, but along with this

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<sup>1</sup> *Recherches etc. Bull. Soc. Anthropol. de Lyon.* Vol. VIII. 1890.



cranium with so enormous a capacity he attributes a stature of 1.50 metres, according to his calculations. New calculations place it at 1.592 metres, which is always too low.

But Testut observes that this cranial type has nothing in common with that of Neanderthal and Spy, although it is completely analogous with the craniums of Cro-Magnon and Sordes, of *L'homme-mort* and Laugerie-Basse, whether these be referred to the upper Quaternary or to the Neolithic. Toward the end of his work he asks whether the man of Chancelade belongs to the same ethnical type of man as the Cro-Magnon and answers the question in the negative for the following reasons: The man of Cro-Magnon had a stature of 1.80 to 1.90 metres, while that of Chancelade had a stature of 1.50 (1.592). The first had a face with a bizygomatic diameter of 143 millimetres, the other a long face with a bizygomatic diameter of 140, the height being greater in that of Chancelade.

These are, indeed, wide differences, and among them the most important are those of stature and facial indices. So far as the former are concerned we do not know the explanation, for normally a cranium of such great capacity is united to so low a stature only when it may be suspected from the form and the incurvation of the femur, an excess of relative development in the upper extremities over the lower, the great dimensions of the feet, and other facts and indices of abnormality. There is here a suggestion of a rickety and deformed skeleton. But Testut finds analogies between the skull of Chancelade and that of the Esquimeau, and refers us to a series of cephalic indices. Apart from the fact, which I have so many times proven, that with measurements and indices the most diverse forms may be brought together and the most homogeneous forms separated, I could show, if this were the place for it, that indices of 77 and 80 for the height of skull are common in craniums of Northern and Eastern Africa including ancient Egypt, and I could show a series of skulls from the eighth century B. C. from the discoveries of Novilara (Pesaro) in which the form of the head (*ste-goides*) is common to many of those having a facial index of 55 to 60, and with forms in the *norma verticalis*, very similar to that of

Chancelade, and which I have called *pelasgicus*. So that the skull of Chancelade appears to me to be *pelasgicus stegoides* of the ellipsoids, which are found even to-day in Eastern Africa. Why refer to the Esquimeaux a cranium found so near the Mediterranean? According to Testut himself has not the cranium of Chancelade complete analogies with the others of Cro-Magnon and Sordes and Laugerie? Perhaps it is only as to the cephalic index that Mortillet finds a resemblance between that of Chancelade and those of Neanderthal and Spy. So far as that is concerned it appears to me that he is quite right in doing so.

Hervé takes up again the problem of the Magdalenian race and separating it from the type of Neanderthal and Spy, accepting the conclusions of Testut upon the origin and type of Chancelade, and finds its continuation at Laugerie, Cro-Magnon, and Sordes; that is, a descent of the Magdalenian race down to the Neolithic age, and he confirms the hypothesis of Testut upon its northern origin, referring to certain products of industry of the Magdalenian epoch analogous to those of the northern populations like the Esquimeaux and others.<sup>1</sup>

So according to the French anthropologists the race which populated Europe of the Quaternary epoch must either have been derived by a transformation of the type of Neanderthal and Spy, as Mortillet believes, or must have come from the polar regions, the ancestors of the Lapps and the Esquimeaux.

The German anthropologists have no general theories concerning the primitive inhabitants of Europe. Many of them weary themselves in investigations concerning the Aryans, especially the Germanic Aryans, but they have not succeeded, because they obstinately consider as Germanic Aryans the northern tall, blonde types with long skulls, the so-called *Reihengräber* type. Virchow has expressed a series of opinions not always consistent, and now thinks he has found in the type of Neanderthal the primitive characteristics of the *Reihengräber*. Now he thinks that the dolichocephalic and the brachycephalic division of the Germans is a differ-

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<sup>1</sup> Hervé. *La race des troglodytes magdaleniens, cit.*

entiation from a single primitive type, as the different forms of language are derived from a single linguistic stock; now, that the Germans may have originated from two types, and again other opinions are expressed which show the uncertainty of the author's criterion.<sup>1</sup>

Ecker before and Von Hölder after<sup>2</sup> thought that they had established definitely the Germanic type of Reihengräber. Concerning this epoch, always investigating the Aryans, there are some books, but they are by linguists, not by anthropologists, as for instance those of Geiger, Pösche, Penka, and Taylor, whose works have no value as anthropological demonstrations. In two Germans, Pösche and Penka, is found an effort to demonstrate the origin of the Germans, and with it the northern European origin of the stirps which populated the whole of Europe and is still diffused over northern Africa. In Taylor there is found an attempt to demonstrate the pre-eminence of the physical type with short head over that with a long head. But in both these writers there is a want of anthropological science. In consequence we find gratuitous hypotheses frequently contrary to ascertained facts.<sup>3</sup> It is useless, therefore, to take account of them.

## II.

One of the principal and most characteristic defects of anthropologists in all countries consists in their lack of taxonomic method, a lack, that is, of a criterion of classification. The cephalic indices are not sufficient, as I have often repeated and demonstrated, and frequently anthropologists abuse them, or consider them secondary, without substituting a suitable and certain character. If we should

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<sup>1</sup> Virchow, *Beiträge zur physischen Anthropologie des Deutschen*. Berlin, 1877.

*Ibid.* *Gesamtberichte*, etc., in *Archiv. für Anthropol.* XVI, 1886.

*Ibid.* *Rassenbildung und Erblichkeit. Festschrift für Bastian*. Berlin, 1896.

<sup>2</sup> Ecker, *Crania Germanica merid. occid.* Freiburg, 1865. Hölder, *Zusammenstellung der in Württemberg vorkommenden Schädelformen*. Stuttgart, 1876.

<sup>3</sup> Compare Sergi, *Origine e diffusione della stirpe mediterranea*. Rome, 1895. See German translation, Leipzig, 1897.

demand from Hervé and Salmon the calculable and convincing difference between the Magdalenian dolichocephalic and the other Neolithic races they could not give it. The numerical variations of a certain unit do not constitute differences of races. An index of 74 is not different from one of 76 or 77 in ethnical signification. I believe it would be absurd to assume such a thing. While it is generally admitted that the cranial type of Neanderthal is different from that of Cro-Magnon and similar types, De Mortillet, who confines himself to the indices, has some reason for considering it to belong to the same race as the other, and given his methods the objections to such classification are unjustified. He is right.

But notice what is now thought as to the form of the cranium. A skull with a wedge-shaped occiput is considered different from another with a rounded occiput in spite of the uniformity of the cephalic index. Thus the skull of Chancelade is referred to the Esquimeau type by the cephalic index and by its capacity, and there is no account taken of the fact that craniums identical with it in type are found in Egypt, in Eastern Africa, in the Canaries, and in Italy. Is it from the North Pole that Europe and a part of Africa have been populated? Are the Egyptians of Esquimeau origin? Has there been a sudden displacement of the axes of the earth so that the equator became the polar circle? I do not see how such an hypothesis on the northern origin of the European peoples, which overthrows the ideas of the origin not only of man but of all our fauna and flora, can be sustained.

A Scandinavian naturalist in a work upon the fauna and flora of that peninsula confirms the idea that Scandinavia was not inhabited before the Neolithic epoch. There is almost no vestige of a Paleolithic man, and the bearers of Neolithic culture, he writes, must have immigrated from Africa or from the Iberian peninsula, but such immigration must have been in relation to and in harmony with the increased temperature of the European climate after the glacial period.<sup>1</sup>

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<sup>1</sup> Krause, *Die Anfänge der Kultur in Skandinavien*. Globus LXXI, 9, Feb. 27, 1897.

This assertion is in perfect agreement with prehistoric data, according to Montelius, an authority the exactness of whose observations is not suspected.<sup>1</sup> If therefore by reason of the temperature of Europe it could not have been inhabited by man before the Glacial epoch, it is difficult to see how there could have come into central and southern Europe a race born at the north in the Quaternary epoch. If, according to Testut and Hervé, Chancelade, Laugeries-Basse and other places have a man of Esquimau type, and if the hand implements of Laugerie are also of northern type, there must have been an immigration from the north to the south in that remote epoch, and man must have been born in an uninhabitable climate worse than the present climate in the same region. But the cephalic indices are characters of race, so the eminent French anthropologists believe, and they must yield to these no matter whether the most important facts contradict cranial measurements or not.

Nor do we believe the other criterion now advanced, exact; that is, that all the physical and psychological characters of man must be united in order to establish the classification of races. This was lately attempted by Keane,<sup>2</sup> and it will suffice to cast a glance at his résumé to perceive the error of his method and the inadmissibility of his criterion.<sup>3</sup> For instance, the ideal Caucasian type has white and brown skin, is dolichocephalic and brachycephalic, has blue and dark eyes, stature great and small, hair of all forms and colors, language inflected and agglutinated, is monotheistic, Christian, Mahomedan, Hebrew, etc. It cannot be classified in this way, it appears to me, and if zoölogists followed this method they would still be in the condition they occupied before the time of Linnaeus.

I have argued for many years that it is necessary to choose

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<sup>1</sup> Montelius, *De Forhistoriska Perioderna i Skandinavien*. Manadsblad, 1893. Stockholm, 1897.

*Ibid.*, *Les temps préhistoriques en Suède et dans les anciens pays Scandinaves*. Paris, 1895, p. 11.

<sup>2</sup> *Ethnology*. Cambridge, 1896. second edition.

<sup>3</sup> *Op. cit.*, p. 228.

one character and classify by means of that, to complete the classification, or better the types classified, with the other characters which may be found. But the character chosen as a means of classification must be constant, persistent, suitable, and then other characters may serve to complete the established type. And I have found this special character in the form of the skull, in spite of the variations which it may present, because I see in it a stability, even from the earliest appearance of man, as a trustworthy indication of man in the prehistoric ages, and the method has proved its value in its practical applications, and in my belief has already succeeded in establishing certain human groups with that certainty which is derived from numerous homogeneous observations.<sup>1</sup> I shall adopt the same criterion in delineating the natural history of the primitive inhabitants of Europe.

### III.

It is generally admitted that the Neanderthal remains are the most ancient witness of man with his osteological characters well defined which has appeared in Europe, but I wish to leave in abeyance the problem of Tertiary man, in order to speak of the Quaternary. If the human remains of Castenedolo represent Tertiary man of the Pliocene epoch, I am not astonished at not finding it of an inferior type. There does not appear to me to have been an intermediate type, because the transitional types could not have survived. The *pithecanthropus* of Sumatra is an animal, having human characteristics to be sure, but it is not a man nor is it an intermediate type. It is a type higher than other anthropomorphic forms. Evolution will doubtless present a species which represents degrees of elevation in form and in structure, but no transitory types. Hence it appears to me that the *pithecanthropus* is not a human precursor in the sense of De Mortillet, nor is the Neanderthal man a species derived from it, and from which has evolved successive European forms, such as are visible in the man of Chancelade and of Cro-Magnon. The Neanderthal man seems to me to be a distinct species, the most ancient known in the Quaternary age, which appears

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<sup>1</sup> Compare my work *Africa*, Turin, Bocca, 1897.

in successive epochs, leaving few but certain indications of its existence even in the present epoch.

The *homo Neanderthalensis* is, according to my opinion, and according to the criteria established by me elsewhere<sup>1</sup> for human classification, a European species. It originated in Europe in the primitive Quaternary epoch, perhaps in the latest Tertiary period. Nothing has been determined in regard to this yet, and no one is able to determine. It may be seen in the caves of Neanderthal and Spy and in other places of central Europe. I do not believe that the skull of the Isola del Liri described by Nicolucci is Quaternary. It is a form common to the most recent Europeans, as in the skulls of Italy, and is, I believe, one of the forms of the species *Eurafricana*. Even the skull of Olmo, now believed to be Tertiary, is doubtful, and from its indices seems to belong to the Bronze Age. Its forms were not constructed normally by sudden deformities. The *homo Neanderthalensis* did not descend to the south of Europe. It is found only north of the Alps, and in England, if we accept the remains of Tillbury and Linnet as Neanderthalensian.

It is worth while to point out that the *homo Neanderthalensis* has not yet completely disappeared in Europe, in spite of its displacement by a new species which, as we shall see, came from the south of Africa but extended into the region of the Baltic, and into Friesland, as Spengel has shown.<sup>2</sup> De Quatrefages admits the survival. Davis shows some examples of the fact, and in certain skulls of Friesland studied by Sasse and Virchow<sup>3</sup> we find the Neanderthal type, and it may also be shown to exist mixed with other races, in other regions of central Europe, as in the Austrian provinces.<sup>4</sup>

As to the survival of the Neanderthal type, it is useful for many reasons to indicate it, because it will show the persistence of

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<sup>1</sup> See my *Africa*, Chapter 20.

<sup>2</sup> Spengel, *Schädel von Neanderthaltypus*. *Archiv. für Anthropol.* VIII, 1875.

<sup>3</sup> Sasse, *Schädel aus dem nordholländischen West-Friesland*. *Archiv. cit.*, IX, 1876. Virchow, *Beiträge, cit.*

<sup>4</sup> In a series of skulls of Styria and Carniola are found Neanderthal forms which I shall consider elsewhere.

cranial forms through so many centuries and in spite of mixing with other species, and because it will show further that the subsequent and prevailing forms of which others, including Penka do not speak, are not derived from that of Neanderthal, as De Mortillet maintains on other grounds and for another scientific purpose. All this seems reasonable to us on account of those principles for which we have argued a long time, and among which is that of the persistence of forms.

## IV.

From some studies and observations upon the physical characters of the few remains of the upper Quaternary, as at Chancelade, and upon some Neolithic remains of Europe and Egypt, brought to light some years ago through the work of Flinders Petrie and De Morgan,<sup>1</sup> I have come to the conclusion that subsequently to the *homo Neanderthalensis* of European origin, towards the Magdalenian epoch of the French, there was an immigration into Europe of a new human type from Africa. In another place I will show that the facts and the civilisation, especially in the Neolithic age, point to this immigration, but for the present I shall occupy myself only with populations.

My wide observations have shown me that a new stirp after that of Neanderthal has populated Europe and Africa from the Mediterranean to the equator, from the east to the west, and also the Canaries, and for this reason I have named it the *Eurafricana* on account of its geographic distribution, and also from its homogeneity, persisting through so many centuries upon soil where it has multiplied, and upon which it still forms for many regions the basis of the modern population. I have also named this species *Eurafricana* on account of its physical characteristics which survived for some time in Europe with the Neanderthal species, that is, until the latter disappeared before a new and powerful invasion leaving few remains or survivors, as has already been seen.

The dominion of the Eurafrian species was for some time

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<sup>1</sup> De Morgan, *Recherches sur les origines de l'Egypte*. Paris, 1896, 1897.



almost absolute, that is almost to the end of the Neolithic period and up to the beginning of the age of metals, by which time the third human species arrived, which was unable to destroy the Euraffrican but either displaced it in certain localities or was mingled with it. It came from Asia, as I shall show, and is called by me *Eurasica*. To-day the one and the other, mixed in different proportions, or almost isolated, form the European populations.<sup>1</sup>

Let us pause here to consider the Euraffrican species.

All the Neolithic skulls which belong to it and are called dolichocephalic and mesocephalic by the anthropologists, have different forms according to their architecture, but this difference of form does not imply a different origin, as the French anthropologists believe. Skulls *à chignon*, and skulls rounded at the back, as they are distinguished, are not of different races, nor are dolicocephalic skulls different in race and origin from the mesocephalic, as the French have always maintained. I cannot understand why it should be thought that skulls having a difference in the cephalic index of one or two units are of different races when they are of the same form, as for instance one of 74.5 and another of 76.5. By this criterion the human races are multiplied to an indefinite number. This happens, it is easy to see, in classifying the Neolithic skulls of Egypt whose anthropology is profoundly altered by this criterion.<sup>2</sup>

I have succeeded in establishing a classification of the Mediterranean stock by means of cranial forms, cerebral or facial, and have then compared these forms with those of the Neolithic age, and have seen the perfect correspondence between them. By means of the same comparison of forms in the ancient and modern people of Europe, I have seen the cranial forms of a species reappear even where the crossing through immigration and invasion has been frequent and continued. Even Scandinavia, populated, as I have said, in the Neolithic epoch, shows cranial forms identical with those of the Mediterranean stock of the Neolithic age, and with

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<sup>1</sup> Compare my works *Africa*, and *Arii e Italici*, Turin, Bocca, 1897, 1898.

<sup>2</sup> De Morgan, *Recherches, etc., cit.*

those of Western Europe and Great Britain. The type called by the Germans Reihengräber corresponds perfectly and completely to the type, or rather to the types, of the Mediterranean and the Neolithic stock, as even the German anthropologists themselves have shown from their Neolithic tombs.<sup>1</sup>

Now there is no doubt that the identity of these typical forms must be referred to a unity of origin, and I will say to a unity of species, namely, that already called *Eurafricana* on account of its origin and its diffusion in Africa and in Europe.

By our classification we have reduced the cranial types of the *Eurafricana* to a few varieties always converging, both in ancient and in modern times. Predominating in it are the ellipsoidal, ovoidal, and pentagonal forms, either dolichocephalic or mesocephalic. The facial forms are also ellipsoidal, ovoidal, and pentagonal, even triangular, the principal forms being equally common and distributed over all those territories where the species is diffused. For the other rather rare forms I refer the reader to my works, especially to my work on Africa.

Now the convergence of such varieties of cranial and facial forms are not only encountered in the three forms above named, but, what is more remarkable, even in the sub-forms or sub-varieties, that is, in the particular divisions in which the cranial forms may be distinguished. It is a curious and significant fact that these cranial sub-forms preserve a similarity through enormous distances of space and time, that is, from the Neolithic to the modern epoch, and from Africa to central and northern Europe, as for instance in Scandinavia. The pentagonal, ellipsoidal, and ovoidal forms of neolithic Egypt are identical with the corresponding forms of Scandinavia, and with the corresponding forms of Italy, ancient and modern, and all the basin of the Mediterranean.

This fact, which I have often shown, and indicated in various ways, justifies the classification of the cranial forms above named, which in reality are varieties of a single primitive type, under a

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<sup>1</sup> Compare von Hölder, *op. cit.*; and Sergi, *Ueber den sogenannten Reihengrabetypus, Centralblatt für Anthropol.*, 1898.

single species ; and we shall find it in another species producing itself under the same circumstances and conditions. And this very fact leads me to insist that for the classification of man, as for that of other animals, we must make use of constant and persistent characters and not of all those characters which may be found in man collectively, as up to the present time some have maintained. A principal, constant, and invariable character, as the bones of the skull and face have shown themselves to be, is not only sufficient but it is the only criterion for determining a species. This is recognised by zoölogists, and it must also be followed by the anthropologists unless they wish to continue in a condition of vagueness and uncertainty.

## v.

If we admit that the species *Eurafricana* lived in the upper Quaternary period, in the epoch called Magdalenian, as the skeleton of Chancelade shows, we have a fixed point from which to establish its immigration from Africa into Europe, its successive diffusion over Europe and its continuation into the Neolithic period, and even into recent times, without having undergone sudden variations of form in head and face. For if the bones of the head have undergone some variations in their anatomical character, due to conditions of life and physical environment, such variations would not have altered the forms considered in their general structure, nor should we always find forms identical in all the series of epochs, and in all the regions where the species is diffused.

But the persistence of the forms of the skeleton, especially of the head and face, more easily verified in researches and by which we have been able to reconstruct the species *Eurafricana*, encounter many difficulties on the part of anthropologists on account of the difference of many external characteristics, such as the different colorations of the skin, and of the hair and eyes especially, which are encountered in the same species, proceeding from the equator to the Mediterranean and from the Mediterranean to the Scandinavian peninsula. We find with reddish brown or black skin in equatorial Africa black hair and eyes, while in the Mediterranean the

brown skin prevails more or less clear, along with eyes from dark to chestnut, and with hair chestnut, rarely black. In the north of Europe the skin is white, the hair blond, and the eyes clear and blue for the most part, or gray in certain people who are commonly called Germanic, dolichocephalic, in which we find the characters of the skull of the same structure as that of the Eurafrian species, the types of Reihengräber.

But this does not imply any difficulty in regard to the unity of species, though it is necessary that I record a distinction made by me, and upon which I have insisted for many years, between the internal characters, that is the skeleton, and the external characters which are those like the coloration of the cutaneous pigment. The first are unalterable; the second undergo the influence of external conditions and hence are mutable, at least after a long period of time. In another place I have discussed this problem at length,<sup>1</sup> and I shall not consider it here, but I have revealed the fact that in Africa it is the external characters and those which I have denominated intermediate, the muscular tissue for instance, which are dependent upon various conditions of soil, climate, and alimentation, and even upon the kind of life of the inhabitants. I have also brought to light that the gradation of colors of the skin and its appendages is distributed in our species according to the temperature and altitude. If, now, there had not been a mixing, or a displacement of population, a certain uniformity in distribution would be seen in accordance with the light or dark coloration of the skin. The fact remains that the type of coloration once established after a long operation of constant influences assumes a stability as if it were originally native and not affected by a long-continued action of external agents. This is a fact now established beyond a doubt, because in the different displacements which populations have undergone, mixing themselves everywhere and under every condition, the color of the skin and the hair remains unchanged.

The external characters of the species *Eurafrica* enable us to distinguish in it three races which originally must have been

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<sup>1</sup> Compare *Africa*, Chapter X and XX.

formed almost in the same places and in the same regions where to-day reside the most numerous masses which represent them. We call, and we shall continue to call, the African race that which has the color of the skin and its appendages very intense, that is black, reddish brown, and reddish black. It may be distinguished, therefore, from those other African negroes and negroids which have skeletons different from those we assign to the *Eurafricana*. In this African race are included the Begia, the Abyssinians, the Galla, the Somali, the Masai, the Wahuma, the Fulbi and other types.<sup>1</sup> We call that race or stock Mediterranean<sup>2</sup> which inhabited and which still inhabits in great numbers the basin of the Mediterranean, which includes that part of Europe bordering upon this sea, a part of western Asia, Egypt, and Morocco, the Canaries, and the region of the Sahara. The color of the skin is brown, and the eyes and hair usually chestnut. This Mediterranean race must have extended itself toward the centre and west of Europe, preserving the same external characteristics acquired in the regions first occupied. The third race, which may be called *Nordica* or Northern race, was formed in northern Europe. It is difficult to assign to it a southern limit, but it is that blonde type, with blue eyes, known to-day as the Germanic, also the Reihengräber type.<sup>3</sup>

If we think that the immigration from Africa into Europe took place in the Quaternary epoch, and remember the centuries which have elapsed, and the different conditions of climate and soil of the various regions occupied, we ought to find no difficulty in conceiving the formation of these three great human divisions, or of these great races, each preserving unaltered its cranial and facial characters but modified in external characters, and especially in coloration. What, indeed, is this modification if not the discoloration of the pigment through the less powerful action of the rays of the sun upon the skin and its appendages? This lesser action continued for about 200000 years or more might produce such effects, although

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<sup>1</sup> *Africa, cit.*

<sup>2</sup> *Origine e diffusione della stirpe Mediterranea, cit.*

<sup>3</sup> See *Arii e Italici, cit.*

in a shorter time, a thousand or even two thousand years, its effect might be inappreciable. It is impossible, of course, that a negro at the pole should become blonde, or a blonde at the equator become black, by remaining there during his life. That is, it is impossible that phenomena which demand a very long time should be produced under our direct observation, and, conversely, characteristics acquired and become established are not changed by a change of place or by a mixing with other stocks.

This species *Eurafricana* appears difficult to recognise on account of the great and continuous mixing which it has undergone, and on account of the different ethnical names which have obscured its origin, as well as on account of the different colors in the same region, and because by the color there has been given the index to races and stocks without recognising the fact that a more stable characteristic may be found, more universal, independent of external action, namely that of the skeleton which constitutes the true type of the species. A brief analysis might distinguish and separate in the populations of Europe the Eurafrian elements from those with which they are mingled.

We may then admit that the first inhabitants of Europe were the men of the Neanderthal species, and that these were followed by the Eurafrian which in the later Quaternary or Magdalenian epoch was diffused over habitable Europe, and hence in the Neolithic age was distributed north and south from the Mediterranean to Scandinavia, east and west over all Europe and in Great Britain, preserving constantly the same physical characteristics, above all in the only ones which we are able to recognise as of that epoch. We are not able therefore to accept the results of the French anthropologists who by an artificial method find many races differing in their physical characters, and of northern origin.

## VI.

To the use of stone succeeded that of metals, and pure copper began to appear in the Neolithic period. This age of transition in the use of copper has been called by us in Italy the *Æneolithic*, to

signify the use of polished stone along with copper. To-day in all Europe it is recognised that there was an epoch of a great civilisation, superior for many reasons at its first appearance to that following the use of bronze together with a new human stock which appears to have imported it. I shall give attention to this subject on another occasion. Now I come anew to the inhabitants of Europe in regard to their anthropological characters.

The Neolithic remains of Europe like those of Egypt, which bear so great resemblance to them, have undergone inhumation, so that we have been able to ascertain the nature of the skeletons in that epoch, and I have already described above the types which are found there. Now toward the end of the Neolithic age, along with those skeletons which bear the marks of the Eurafian species, are found others with different characters, recognisable especially in the skull. One of these characters is measurable, being that of a high cephalic index, that is, it indicates a brachycephalic race. We have seen that the French anthropologists recognize a Neolithic brachycephalic form, and in considerable numbers, about twenty-one per cent. according to the calculations of Salmon. The epoch is not well defined. Naturally it should be recent and perhaps co-existent with the introduction of metals. That metals are not found in this age of transition among the remains is not to be wondered at when one thinks that at that time they must have been scarce. Toward the end of this epoch there was an infiltration of a new race into Europe, made in a pacific way because no change is found in the customs and civilisation, anything new that was introduced being of little importance. At all events it brought with it no profound change.

This new race had a large and relatively short head with different forms, corresponding to the spheroidal, platycephalic and cuneiform (sphenoidal for the most part), with large facies having a tendency to flatness, all Asiatic forms and such as gave origin to the Lapponoid theory of De Quatrefages and others. We cannot affirm absolutely that this new ethnical element was of Lapp origin, for we have no evidence to prove it. But we may affirm another fact to the contrary and which is of more importance, namely, that

they have the same osseous features as the people who came into Europe with the age of bronze, and who to-day constitute the brachycephalic populations of central and western Europe, and of the groups which penetrated to the south and the north, the Aryans, that is, who in recent times bore the names of Celts, and Germans, and Slavs, as I have elsewhere shown.<sup>1</sup>

The Aryans must have been numerous and violent invaders, for they drove out of some regions the primitive inhabitants of the Eurafrican species, changed many of their customs, destroying almost completely or obscuring the Neolithic civilisation. I call attention to the funeral rites only, which is always an important manifestation among peoples, and we know that the Aryans practised cremation, which was substituted for the inhumation of the Neolithic age. If therefore we consider these facts in succession, the physical characteristics of the newcomers in Europe, first peacefully and then violently, we think we may affirm that the new ethnical elements of the Neolithic age were the advance guard of the later Asiatic invasion which was made by that stock which was in consequence called Indo-European and which was believed to be the bearer of civilisation. We consider this new stock, which was Asiatic in origin, and which we have elsewhere stated to belong to the Eurasic species, as that which has given to Europe its second inhabitants, the first being the Eurafrican, which followed the Neanderthal which left few remains.

But I do not wish to close this article without referring to the fact that Pritchard observed in the Celtic cranium of Great Britain, which is identical with that of other regions, the Mongol or the Turanian characters; that Nicolucci described in the Piedmont cranium, foolishly believed by him to be Ligurian, an error which is to-day repeated by the French anthropologists, the same Mongol or Turanian features, and that I myself in studying the skulls of Piedmont recognised these features many years ago.<sup>2</sup>

Finally, there is Hervé who recognised the mongoloids in

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<sup>1</sup>*Arii e Italici*, cit.

<sup>2</sup>*Liguri e Celti nella Valle del Po*. Florence, 1883.



France,<sup>1</sup> which he obstinately denominates Celto-Ligurians, while the Ligurians whom we Italians have in our country are Mediterranean Eurafrican, as the remains of Riviera, Genoa, and of Mentone evidently show.

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<sup>1</sup> *Les mongoloides en France. Revue mensuelle d'Anthropologie*, July 15, 1898.